

WA Commingled Improvements Project: Southwest Region Workgroup

November 19, 2009, Ecology HQ, 9:00 - 12:00

Notes

Focus on Mixed Waste Paper in the Commingled System

Responses to Questions on Mixed Waste Paper:

Local Governments and Collectors

- **What is the specific messaging for preparation?**
Photos/text that are include in the Yes column: phone books (8), shredded paper in a bag (5), mail (8), magazines (8), catalogs (8), paper bags (3), paper milk-type cartons (gable-top) (8), frozen food boxes (6), envelopes (3), cereal and dry food boxes (6), juice boxes (6), paperback books (2), gift wrap (3), egg cartons (4), office/computer paper (2), paper towel/TP rolls (1), ice cream cartons (1), soda/beer cartons (3), mixed waste paper (1), tetra-pak (2)
Photos/text that are included in the No column: juice boxes (1), food contaminated paper plates (6), napkins (6), pizza boxes (3), diapers (1), carbon paper (1), cups (4), foil gift wrap (1), tissue, TP, paper towels (2), waxed or plastic coated paper/boxes(1), ice cream cartons (1), frozen juice containers (1)
- **Special/extra messaging?**
Put shredded in paper bag/box (all but one jurisdiction). Many jurisdictions promote shredded paper and composting, but not exclusively. No shredded in commingle—put in compost or garbage (1 jurisdiction). Discourage gift wrap (1 jurisdiction). Keep it loose—Do not bag, bundle or tie.
- **Collected the same as other materials?** Yes
- **Does it provide revenue for your program or is it only a cost?** Small revenue (3 jurisdictions)
- **Percent of total materials collected in curbside program?** Olympia 12%, Mason ?, Tacoma 35%, Pierce 56%, Auburn data coming from WM., Lewis 12%, Shelton ?, Thurston ?

Processors

- **Percent of total incoming?** 52-68% (Note from SP: 10% of MWP gets sold as MWP, the rest is sold as ONP)
- **Quality of incoming?**
 - Definition of mixed: any non-brown fiber that isn't news (SP)
 - Gable top/polycoated is an issue at mills.
 - Customs does not allow tetrapak now in mixed paper.
 - Some fiber are include in programs that no one wants (not OCC, ONP, or MWP markets).
- **Problems in processing?**
 - Things that look like news size go with news—cereal boxes. Equip can't get that out, must hand sort.
 - Shredded paper is an issue if it is contained – prefer loose shred (The more it's contained the farther it makes it down the system and blows around from the other sorters. Separating shred from glass is a problem. We can vacuum, some but it's still an issue.
 - Wet paper doesn't work well in the system—gets torn into small pieces.
- **Areas that could be improved from MRF perspective?**
Keep things in their regular size—small size fiber is a problem cause they go to other destinations other than fiber.
- **Percent of residual?** Less than 2% by weight, by volume higher
- **Rate the market: Strong, medium, weak for local and export?** Moderately strong export and domestic
- **High value commodity?** No—medium to lower end
- **Easy to move?** Yes

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Manufacturers

NORPAC – Jay Simmons

NORPAC is a domestic news mill, but because so much mixed paper gets sold as ONP, NORPAC provided their perspective as an end user and presented data on the amount of outthrows and prohibitives they receive.

Due to the size of the file, this presentation has been posted the Information Clearinghouse under Resources. Go to <https://fortress.wa.gov/ecy/swicpublic/UIResource/SearchResource.aspx> and check the box next to Presentations (or type in NORPAC), then hit Search at the bottom of the page.

America Chung Nam – Susan Choi

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- **Supply?**

Nine Dragons uses 99% recovered paper as raw material. 7 million tons of recovered paper exported to China in 2008 from the US, Europe, Japan. Nine Dragons is the largest recycled containerboard producer in Asia and among the top three in the world.

- **Prohibitives?**

- *Glass – Highly damaging to paper machines. Can be imbedded in the finished product. Fine glass can cause streaking during coating process.*
- *Yard Waste (i.e. organics) and Wood—China Customs will not allow non-heat treated wood to be exported to China*
- *Food Waste*
- *Flammable/Hazardous items such as lighter, container with flammable substance and powder. ND had a fire started by lighter and other unknown hazardous materials.*
- *Metal*
- *Plastic*
- *Aluminum*
- *Unhogged Pornographic Material (pornographic materials are banned in China)*

- **Outhrows?**

- *Self Adhesive Paper*
- *Waxed Material*
- *Poly Coated Paper including Milk and Juice Cartons*
- *Aluminum Foil paper*
- *Heavily glued material like book binding*
- *Mill wrappers*
- *Non-tear paper*
- *Egg Cartons – Banned by Chinese Customs. They have found food waste in past shipments*
- *Cores (i.e. TP)*
- *Wet Strength (carrier stock)*
- *Finely shredded (less than ½ inch wide) or hole punches*
- *Window envelopes*

- **Yield loss?** *Typically a 10% on usable fiber*

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- **Capacity/ Need to use more?**
Even as China increases domestic sourcing of recovered paper, the demand will continue for US produced recovered paper. The paper consumed in China that becomes domestic MWP is not as high a grade as the imported MWP. Nine Dragons is increasing production capacity from 8.55 million metric tons in 2009 to 10.4 million metric tons in 2010. One million metric tons of new production will be Duplex Board.
- **Problems with your equipment?**
Problems due to outthrows and prohibitives: wear and tear on the machines is accelerated, heavy glue can create sticky mess that clog screens, glass can be extremely damaging to machines.
- **Value in using vs. other virgin feedstock?**
Nine Dragons uses 99% recovered paper as raw material. Recovered paper is more economical compared to virgin fiber. Environmentally friendlier than using virgin pulp.
- **Final product?**
Kraft linerboard (for?), test linerboard (for?), white top linerboard (for?), high performance corrugating medium (for corrugated boxes), coated duplex board (like for cereal boxes that have a white exterior to advertise the product), unbleached Kraft pulp (For?)
- **Problem areas?**
High percentage of prohibitive materials and outthrows will continue to create the following problems overseas:
 - *Machine damages*
 - *Landfilling of waste rejected by the pulper*
 - *Pests and Food Waste that can bring diseases*
 - *Contamination from Hazardous Waste*
 - *Rejected containers by Chinese customs will need to be shipped back to US*

Market Notes

Jordan Trading – Bob Kovich

-The vast majority of mixed paper produced in Washington and the West Coast is exported, and almost all mixed paper that is exported goes to China.

-The paper mills in China have a tremendous demand for mixed paper. Boxboard is the most prevalent product mixed paper is used for, but it may also go into the production of medium and even linerboard. However, the Chinese government is very leery of mixed paper imports. The government has concern, and unfortunately it is well founded, that it may contain garbage and other undesirables. Traditionally, mixed paper has been produced from the floor sweepings when cleaning up between shifts, and has been the residual that goes over the end of the belt once the majority of good paper has been separated out. At times, this residual and floor sweepings can be pretty nasty, but between a desire for plants to sell the maximum amount of product, and possibly some language in contracts w/ municipalities that set limits on how much trash can be created as a % of the total inbound, there have been occasions that product was shipped to China or elsewhere that really should have been re-sorted or taken to the landfill.

-The Chinese Gov't. has specified that imported recovered paper may have no more than 1.5% non paper contamination. Our experience is that a lot of mixed paper exceeds these percentages, particularly mixed paper from residential single stream MRFs. You have heard the same in past meetings from domestic mills. Waxed paper/ or corrugated, carbon paper and foil laminated paper are also considered prohibitives by the Chinese Gov't. standards and fall under the 1.5% rule even though they are paper based products.

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-It is very important for all recycling plants that export, but especially so for single stream MRFs to dress or clean the bales by removing prohibited items such as cans, plastic, glass, wax, and foil from the outside of bales prior to loading for export. Once containers arrive to the port of discharge in China, CIQ which is the Chinese government equivalent of our CCIC inspectors open and inspect, at least the cargo in the back of the container. If the inspectors see prohibited materials in the bales, they may reject not only the container being inspected, but may reject the entire shipment. When you add the value of the paper, plus shipping costs to China and back, and other misc. cost such as import fees etc., a rejection of a shipment of say 10 containers can easily be \$50,000. So it is really important to make sure the bales have a good clean appearance. Additionally, if bales have an odor prior to shipment, or are wet, it is best not to load them for export. It takes at least 2 weeks for cargo to get to China and odors or wet paper sitting and fermenting in an enclosed container for 2 weeks or more will smell much worse. The last thing you want is for an inspector to open a container and practically choke from some rotting food or wet mildewing paper.

-Most if not all mixed paper shipped to China will be hand sorted when it gets to the paper mill. Obviously, contaminants such as broken glass are a hazard to the people sorting.

-Most mills in China that buy mixed paper prefer if not demand a soft mixed paper, which means it contains a high percentage of groundwood papers such as newspaper. There are markets for a hard mix which would contain a higher percent of OCC, but by far, the preferred grade is a soft mix. Soft mixed paper is typically what would be produced in a residential single stream MRF operation.

-In summary, mixed paper is a very valuable grade for the mills in China and is widely consumed. For recycling plants, it has good value, but recyclers need to be very aware and cognizant of the stigma that the Chinese government puts on this grade and treat mixed paper like they would treat higher grades of paper. They need to create mixed paper through the sorting process, not look at it as whatever is left at the end of the process can be baled and sold as mixed paper. Municipalities can help by educating the public as to what is acceptable and what is not. In this case, you can't say don't recycle cans or plastic or glass, and there's no need to, the recycling plants are set-up to remove this and sell separately; but you can say don't recycle waxed paper or wax corrugated, or foil lined paper such as gift wrap. I would defer to Susan Choi to determine whether aseptic packaging (foil lined juice boxes) are acceptable or not.

Reporting Method for Final Report

Include in the report design templates to facilitate the discussion at our Dec. Next Steps meeting:

- The issues for each commodity and the impact on each part of the system
- Consistencies across programs in messaging/outreach
- Analytic consistency across programs – common tools that work or some of the pitfalls, things to look at when you're considering a methodology to determine changes to your program

Meeting Schedule

Next Steps: Part 1 – December 17, 9:00 – 12:30

Next Steps: Part 2 – January TBD